

CLAIM AMENDMENTS

1. (Original) A polymer comprising a phenolic monomeric unit wherein the phenyl group of the phenolic monomeric unit is substituted by a group having the structure $-S-(L)_k-Q$ wherein S is covalently bound to a carbon atom of the phenyl group, wherein L is a linking group, k is 0 or 1 and Q comprises a heterocyclic group.

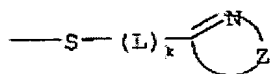
2. (Original) A polymer according to claim 1 wherein said heterocyclic group is aromatic.

3. (Currently Amended) A polymer according to claim 1 ~~or 2~~ wherein said heterocyclic group contains at least one nitrogen atom in the ring of the heterocyclic group.

4. (Currently Amended) A polymer according to ~~any of the preceding claims~~ claim 1 wherein said heterocyclic group has a 5- or 6- membered ring structure, and is optionally annelated with another ring system.

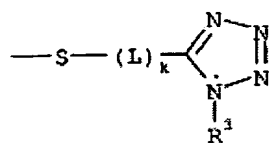
5. (Currently Amended) A polymer according to ~~any of the preceding claims~~ claim 1 wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole, benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group.

6. (Currently Amended) A polymer according to claim 1 wherein ~~the~~ $-S-(L)_k-Q$ comprises the following formula



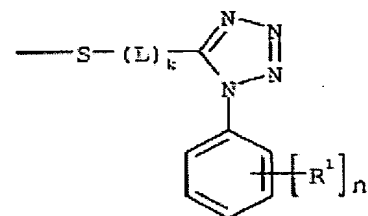
wherein Z represents the necessary atoms to form a 5- or 6- membered heterocyclic aromatic group, and is optionally annelated with another ring system.

7. (Original) A polymer according to claim 6 wherein the $-S-(L)_k-Q$ comprises the following formula



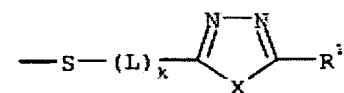
wherein R^1 is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group.

8. (Currently Amended) A polymer according to claim 6 wherein the $-S-(L)_k-Q$ comprises the following formula



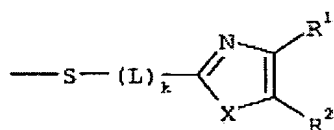
wherein n is 0, 1, 2, 3, 4 or 5, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, $-SO_2-NH-R$, $-NH-SO_2-R$, $-CO-NR-R$, $-NR-CO-R$, $-NR^2-CO-NR^3-R^4$, $-NR^2-CS-NR^3-R^4$, $-NR^2-CO-O-R^3$, $-O-CO-NR^2-R^3$, $-O-CO-R^5$, $-CO-O-R^2$, $-CO-R^2$, $-SO_3-R^2$, $-O-SO_2-R^5$, $-SO_2-R^2$, $-SO-R^5$, $-P(=O)(-O-R^2)(-O-R^3)$, $-O-P(=O)(-O-R^2)(-O-R^3)$, $-NR^2-R^3$, $-O-R^2$, $-S-R^2$, $-CN$, $-NO_2$ or $-M-R^2$, wherein M represents a divalent linking group containing 1 to 8 carbon atoms, where in R^2 to R^4 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^5 is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1 , R^2 , R^3 , R^4 and R^5 together represent the necessary atoms to form a cyclic structure.

9. (Currently Amended) A polymer according to claim 6 wherein the $-S-(L)_k-Q$ comprises the following formula



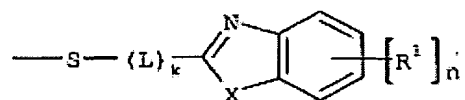
wherein X is O, S or NR³, wherein R is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -L¹-R², where in L¹ is a linking group, wherein R² is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -CN, wherein R³ is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from R¹, R² and R³ represent the necessary atoms to form a cyclic structure.

10. (Currently Amended) A polymer according to claim 6 wherein the -S-(L)_k-Q comprises the following formula



wherein X is O, S or NR⁴, wherein R¹ and R² are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -L¹-R³ wherein L¹ is a linking group, wherein R³ is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -CN, wherein R⁴ is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from R¹, R², R³ and R⁴ together represent the necessary atoms to form a cyclic structure.

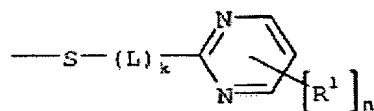
11. (Currently Amended) A polymer according to claim 6 wherein the -S-(L)_k-Q comprises the following formula



wherein n is 0, 1, 2, 3 or 4, wherein X is O, S or NR⁵, wherein each R¹ is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, -SO₂-NH-R²,

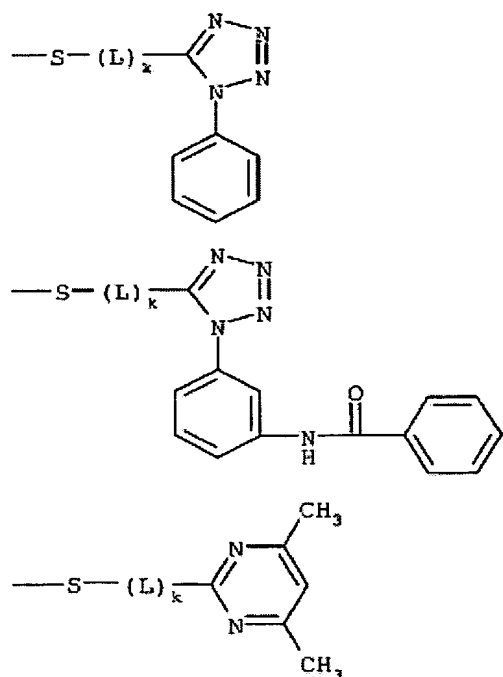
-NH-SO₂-R⁶, -CO-NR²-R³, -NR²-CO-R⁶, -NR²-CO-NR³-R⁴, -NR²-CS-NR³-R⁴,
-NR²-CO-O-R³, -O-CO-NR²-R³, -O-CO-R⁶, -CO-O-R², -CO-R², -SO₃-R², -O-SO₂-R⁶,
-SO₂-R², -SO-R⁶, -P(=O)(-O-R²)(-O-R³), -O-P(=O)(-O-R²)(-O-R³), -NR²-R³, -O-R², -S-R²,
-CN, -NO₂ or -M-R², wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R² to R⁵ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R⁶ is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R¹, R², R³, R⁴, R⁵ and R⁶ represent the necessary atoms to form a cyclic structure.

12. (Currently Amended) A polymer according to claim 6 wherein the -S-(L)_k-Q comprises the following formula



wherein n is 0, 1, 2 or 3, wherein each R¹ is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, -SO₂-NR-R², -NR-SO₂-R⁵, -CO-NR²-R³, -NR²-CO-R⁵, -NR²-CO-NR³-R⁴, -NR²-CS-NR³-R⁴, -NR²-CO-O-R³, -O-CO-NR²-R³, -O-CO-R⁵, -CO-O-R², -CO-R², -SO₃-R², -O-SO₂-R⁵, -SO₂-R², -SO-R⁵, -P(=O)(-O-R²)(-O-R³), -O-P(=O)(-O-R²)(-O-R³), -NR²-R³, -O-R², -S-R², -CN, -NO₂ or -M-R², wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R² to R⁴ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R⁵ is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R¹, R², R³, R⁴ and R⁵ together represent the necessary atoms to form a cyclic structure.

13. (Currently Amended) A polymer according to claim 6 wherein the -S-(L)_k-Q comprises one of the following formula:



14. (Currently Amended) A polymer according to ~~any of the preceding claims~~ claim 1, wherein said polymer comprising a phenolic monomeric unit is a novolac, resol or polyvinylphenol.

15. (Currently Amended) A heat-sensitive lithographic printing plate precursor comprising a support having a hydrophilic surface and an oleophilic coating $[[,]]$ provided on the hydrophilic surface, said coating comprising an infrared light absorbing agent and a polymer ~~according to any of the preceding claims~~ comprising a phenolic monomeric unit wherein the phenyl group of the phenolic monomeric unit is substituted by a group having the structure $-S-(L)_k-Q$ wherein S is covalently bound to a carbon atom of the phenyl group, wherein L is a linking group, k is 0 or 1 and Q comprises a heterocyclic group.

16. (Currently Amended) A heat-sensitive lithographic printing plate precursor according to claim 15, wherein said coating further comprises a dissolution inhibitor and wherein said precursor is a positive working lithographic printing plate precursor.

17. (Currently Amended) A heat-sensitive lithographic printing plate precursor according to claim 16, wherein said dissolution inhibitor is selected from the group consisting of

[[-]] an organic compound which comprises at least one aromatic group and a hydrogen bonding site, ~~and/or~~

[[-]] a polymer or surfactant comprising siloxane or perfluoroalkyl units and mixtures thereof.

18. (Canceled)

19. (Currently Amended) A heat-sensitive lithographic printing plate precursor according to claim 15, wherein said coating further comprising a latent Brönsted acid and an acid-crosslinkable compound and wherein said precursor is a negative working lithographic printing plate precursor.

20. (Canceled)

21. (New) A polymer according to claim 2 wherein said heterocyclic group contains at least one nitrogen atom in the ring of the heterocyclic group.

22. (New) A polymer according to claim 2 wherein said heterocyclic group has a 5- or 6- membered ring structure, and is optionally annelated with another ring system.

23. (New) A polymer according to claim 3 wherein said heterocyclic group has a 5- or 6- membered ring structure, and is optionally annelated with another ring system.

24. (New) A polymer according to claim 3 wherein said heterocyclic group has a 5- or 6- membered ring structure, and is annelated with another ring system.

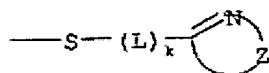
25. (New) A polymer according to claim 24 wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole,

benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group.

26. (New) A polymer according to claim 5, wherein said polymer comprising a phenolic monomeric unit is a novolac, resol or polyvinylphenol.

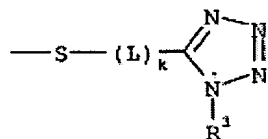
27. (New) A polymer according to claim 15 wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole, benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group.

28. (New) A heat-sensitive lithographic printing plate precursor according to claim 15 wherein $-S-(L)_k-Q$ comprises the following formula



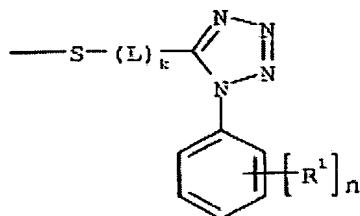
wherein Z represents the necessary atoms to form a 5- or 6- membered heterocyclic aromatic group, and is optionally annelated with another ring system.

29. (New) A heat-sensitive lithographic printing plate precursor according to claim 28 wherein the $-S-(L)_k-Q$ comprises the following formula



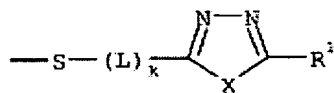
wherein R^1 is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group.

30. (New) A heat-sensitive lithographic printing plate precursor according to claim 28 wherein $-S-(L)_k-Q$ comprises the following formula



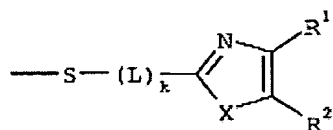
wherein n is 0, 1, 2, 3, 4 or 5, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, $-SO_2-NH-R$, $-NH-SO_2-R$, $-CO-NR-R$, $-NR-CO-R$, $-NR^2-CO-NR^3-R^4$, $-NR^2-CS-NR^3-R^4$, $-NR^2-CO-O-R^3$, $-O-CO-NR^2-R^3$, $-O-CO-R^5$, $-CO-O-R^2$, $-CO-R^2$, $-SO_3-R^2$, $-O-SO_2-R^5$, $-SO^2-R^2$, $-SO-R^5$, $-P(=O)(-O-R^2)(-O-R^3)$, $-O-P(=O)(-O-R^2)(-O-R^3)$, $-NR^2-R^3$, $-O-R^2$, $-S-R^2$, $-CN$, $-NO_2$ or $-M-R^2$, wherein M represents a divalent linking group containing 1 to 8 carbon atoms, where in R^2 to R^4 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^5 is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1 , R^2 , R^3 , R^4 and R^5 together represent the necessary atoms to form a cyclic structure.

31. (New) A heat-sensitive lithographic printing plate precursor according to claim 28 wherein $-S-(L)_k-Q$ comprises the following formula



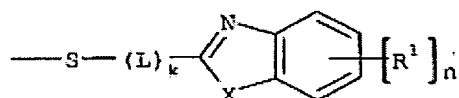
wherein X is 0, S or NR^3 , wherein R is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or $-L^1-R^2$, where in L^1 is a linking group, wherein R^2 is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or $-CN$, wherein R^3 is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from R^1 , R^2 and R^3 represent the necessary atoms to form a cyclic structure.

32. (New) A heat-sensitive lithographic printing plate precursor according to claim 28 wherein -S-(L)_k-Q comprises the following formula



wherein X is O, S or NR⁴, wherein R¹ and R² are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -L¹-R³ wherein L¹ is a linking group, wherein R³ is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -CN, wherein R⁴ is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from R¹, R², R³ and R⁴ together represent the necessary atoms to form a cyclic structure.

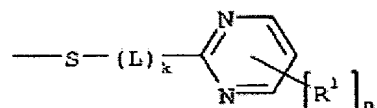
33. (New) A heat-sensitive lithographic printing plate precursor according to claim 28 wherein -S-(L)_k-Q comprises the following formula



wherein n is 0, 1, 2, 3 or 4, wherein X is O, S or NR⁵, wherein each R¹ is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, -SO₂-NH-R², -NH-SO₂-R⁶, -CO-NR²-R³, -NR²-CO-R⁶, -NR²-CO-NR³-R⁴, -NR²-CS-NR³-R⁴, -NR²-CO-O-R³, -O-CO-NR²-R³, -O-CO-R⁶, -CO-O-R², -CO-R², -SO₃-R², -O-SO₂-R⁶, -SO₂-R², -SO-R⁶, -P(=O)(-O-R²)(-O-R³), -O-P(=O)(-O-R²)(-O-R³), -NR²-R³, -O-R², -S-R², -CN, -NO₂ or -M-R², wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R² to R⁵ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R⁶ is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least

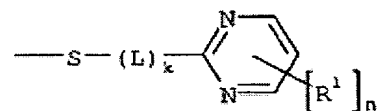
two groups selected from each R^1 , R^2 , R^3 , R^4 , R^5 and R^6 represent the necessary atoms to form a cyclic structure.

34. (New) A heat-sensitive lithographic printing plate precursor according to claim 28 wherein $-S-(L)_k-Q$ comprises the following formula



wherein n is 0, 1, 2 or 3, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, $-SO_2-NR-R^2$, $-NR-SO_2-R^5$, $-CO-NR^2-R^3$, $-NR^2-CO-R^5$, $-NR^2-CO-NR^3-R^4$, $-NR^2-CS-NR^3-R^4$, $-NR^2-CO-O-R^3$, $-O-CO-NR^2-R^3$, $-O-CO-R^5$, $-CO-O-R^2$, $-CO-R^2$, $-SO_3-R^2$, $-O-SO_2-R^5$, $-SO_2-R^2$, $-SO-R^5$, $-P(=O)(-O-R^2)(-O-R^3)$, $-O-P(=O)(-O-R^2)(-O-R^3)$, $-NR^2-R^3$, $-O-R^2$, $-S-R^2$, $-CN$, $-NO_2$ or $-M-R^2$, wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R^2 to R^4 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^5 is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1 , R^2 , R^3 , R^4 and R^5 together represent the necessary atoms to form a cyclic structure.

35. (New) A heat-sensitive lithographic printing plate precursor according to claim 28 wherein $-S-(L)_k-Q$ comprises the following formula



wherein n is 0, 1, 2 or 3, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, $-SO_2-NR-R^2$, $-NR-SO_2-R^5$, $-CO-NR^2-R^3$, $-NR^2-CO-R^5$, $-NR^2-CO-NR^3-R^4$, $-NR^2-CS-NR^3-R^4$, $-NR^2-CO-O-R^3$, $-O-CO-NR^2-R^3$, $-O-CO-R^5$, $-CO-O-R^2$, $-CO-R^2$, $-SO_3-R^2$, $-O-SO_2-R^5$, $-SO_2-R^2$, $-SO-R^5$, $-P(=O)(-O-R^2)(-O-R^3)$, $-O-P(=O)(-O-R^2)(-O-R^3)$, $-NR^2-R^3$, $-O-R^2$, $-S-R^2$, $-CN$, $-NO_2$ or

-M-R², wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R² to R⁴ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R⁵ is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R¹, R², R³, R⁴ and R⁵ together represent the necessary atoms to form a cyclic structure.

36. (New) A heat-sensitive lithographic printing plate precursor according to claim 16 wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole, benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group.

37. (New) A heat-sensitive lithographic printing plate precursor according to claim 19 wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole, benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group.